number of cases studied this true *récidive* occurred in seventeen. Age seemed to play no part, the cases being observed in children from one to nine years old. The primary disease was in most cases light or moderately severe; in three only was it severe. The onset of the reinfection was marked by no special complication beyond the rise in temperature, except in three cases: (*a*) In a child of one year and two months, catarrhal pneumonia; (*b*) acute enteritis in a child one and a half years old; and (*c*) in a child three years old, who had had an intercurrent attack of measles, the scarlatina reinfection proved fatal.

The primary eruption in twelve cases was moderately marked, and in five intense. The secondary exanthem was always less intense than the primary, lasted two to eight days (more frequently two days only), and subsided more rapidly than the first. The elevation of temperature was sometimes higher, sometimes lower than in the primary attack. Renal disease occurred in eight of the cases. The so-called *pseudo-récidive* occurred usually at the end of the first or middle of the second week; the true reinfection much later, in the third to the sixth week. In none of the cases did vomiting mark the onset of the reinfection.

THE MILK-SUPPLY OF NEW YORK CITY.

EMILY LEWI (*New York Medical Journal*, February 9, 1895) reports the results of an investigation carried out by Dr. Koplik and herself for the purpose of discovering the real facts concerning the condition and quality of the milk-supply of the tenement-house districts of New York City. It may be reasonably assumed that what can be proven in this investigation in New York City may be accepted without much hesitation for other large cities of the Northern States.

The investigation extended over a period from March to October of the year 1894. It having been proved that milk taken from various sources in the city and at various periods of the year possessed much the same physical characteristics, or, in other words, was an average mixed milk, the question of freshness and quality alone remained for investigation. For this purpose Soxhlet's method, as perfected by Plauth, was chosen. Soxhlet has shown that fresh milk for some time after milking does not increase in acidity, and this interim of stationary acidity is known as the incubation period, the length of which depends upon the temperature at which the milk is kept and the cleanliness attending its procural and preservation. According to Plauth, fresh milk kept at a temperature of 25° C. in the thermostat shows an appreciable increase in acidity at the end of the fifth hour, when the bacterial count is somewhat over half a million, and at the end of eight hours, when the incubation period is well over, the bacteria number eight millions.

In each case the samples of milk were kept at the temperature of the atmosphere, no effort being made to retard the incubation period by refrigeration.

The conclusions of this study indicate that both in winter and summer the ordinary commercial milk, upon its arrival in the city, is within the incubation period; that this stage lasts twenty-four hours in winter, thirteen to seventeen on a fairly cold day, and five hours on a hot summer day after reaching the city. The author, therefore, believes that if prepared (sterilized) early in the day, the ordinary milk of commerce is suitable for infant-feeding.

Further experiments were made to test the value of pasteurization as a preservative process. On a warm summer day pasteurized milk had a fairly stationary acidity for ten or twelve hours, the acidity then rising slowly until at the end of twenty-four hours the milk was curdled. The growth of the bacterium lactis was thus retarded about six hours as compared with unpasteurized milk. On the other hand, sterilization at 90° to 92° C. for forty minutes, while rendering the milk far from absolutely sterile, rendered the bacterium lactis inert for two days at least at a summer temperature. It may therefore be concluded that, without subsequent refrigeration, pasteurization in summer does not offer a safe method of preparing milk for infant-feeding. This agrees with the earlier observations of Bitter and the recently expressed view of Flügge (*Zeitschrift f. Hygiene*, 1894, S. 272) that milk pasteurized at the dairy must, upon reaching the city, be treated as unpasteurized, as far as its adaptation to infant-feeding is concerned.

A THEORY OF RHACHITIS.

WACHSMUTH (*Jahrbuch f. Kinderheilkunde*, Bd. xxxix., Hft. 1, S. 56) concludes an elaborate paper on the theory of rhachitis by stating that the conditions for the precipitation of lime-salts in normal growing bone are: (*a*) the presence of fully developed cartilage cells, and (*b*) the presence of carbon dioxide in the tissue of the cartilage and bone in quantity not sufficient to hold the lime-salts in solution, or to redissolve them when precipitated. In rhachitis both of these conditions are incompletely fulfilled and in inverse proportion to the gravity of the disease, there being an abnormal development of the small-cell elements of the cartilage with scarcity of the fully developed cells, while at the same time the free carbon dioxide of the blood is increased. In other words, rhachitis is a chronic carbon dioxide poisoning—an asphyxia of growing bone.

FURTHER FAVORABLE TESTIMONY FOR THE DIPHTHERIA-ANTITOXIN.

SCHRÖDER (*Münch. med. Wochenschr.*, April 4 and 9, 1895) thinks that it is too soon to pass final judgment upon the value of the serum-therapy in diphtheria. His own experience has been quite favorable. In the city hospital of Altona, from September, 1894, to March 1, 1895, he injected 63 cases of diphtheria, 8 of which died (12.69 per cent. mortality). The Klebs-Loeffler bacillus was found to be present in all but 7 cases, the diagnosis in the latter being clinical. Two of these died, so that, excluding all 7, the mortality of the true diphtheria cases was 10.71 per cent., as opposed to 29.41 per cent. for 1889, the lowest of the seven preceding years.

In 31 of the 63 cases tracheotomy was done, with a mortality of 3, or 9.67 per cent. These 3 were under two years of age, and in 1 no bacilli were found. Excluding this 1 and 1 recovery where there were no bacilli, the mortality of the tracheotomies was 6.55 per cent.